IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

PARITY NETWORKS LLC, *Plaintiff*, v. AVIAT NETWORKS, INC., *Defendant.*	§ § § § § § § § §	CIVIL ACTION NO. 6:20-cv-00057 **JURY TRIAL DEMANDED**

ORIGINAL COMPLAINT

Plaintiff Parity Networks LLC ("Plaintiff" or "Parity Networks"), by and through its attorneys, for its Original Complaint against Aviat Networks, Inc. ("Defendant" or "Aviat"), and demanding trial by jury, hereby alleges as follows:

I. NATURE OF THE ACTION

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 271, *et seq.*, to enjoin and obtain damages resulting from Defendant's unauthorized use, sale, and offer to sell in the United States of products, methods, processes, services and/or systems that infringe Parity Networks' United States patents, as described herein.

2. Aviat manufactures, provides, uses, sells, offers for sale, imports, and/or distributes infringing products and services; and encourages others to use its products and services in an infringing manner, including their customers, as set forth herein.

3. Parity Networks seeks past and future damages and prejudgment and post-judgment interest for Aviat's past infringement of the Patents-in-Suit, as defined below.

II. PARTIES

4. Plaintiff Parity Networks is a limited liability company organized and existing under the laws of the State of Delaware. Parity Networks' registered agent for service of process in Texas is InCorp Services, Inc., 815 Brazos Street, Suite 500, Austin, Texas 78701.

5. On information and belief, Defendant Aviat conducts business in the State of Texas and in this District but has not designated an agent for service of process in Texas. On further information and belief, Aviat is a corporation organized under the laws of Delaware, with its headquarters established in this District at 200 Parker Drive, Suite C100A, Austin, Texas 78728. Aviat's registered agent for service of process in Delaware is Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware, 19808.

III. JURISDICTION AND VENUE

6. This is an action for patent infringement which arises under the Patent Laws of the United States, namely, 35 U.S.C. §§ 271, 281, 283, 284 and 285.

7. This Court has exclusive jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

8. On information and belief, venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b) because Defendant has a regular and established place of business in this district, transacted business in this District, and has committed and/or induced acts of patent infringement in this district.

9. On information and belief, Defendant Aviat is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses

of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this Judicial District.

IV. FACTUAL ALLEGATIONS

PATENTS-IN-SUIT

10. Parity Networks is the owner of all right, title and interest in and to U.S. Patent No. 6,252,848 (the "'848 Patent," attached as **Exhibit 1**), entitled "System Performance in a Data Network Through Queue Management Based on Ingress Rate Monitoring," issued on June 26, 2001.

11. Parity Networks is the owner of all right, title and interest in and to U.S. Patent No. 7,719,963 (the "'963 Patent," attached as **Exhibit 2**), entitled "System for Fabric Patent Control," issued on May 18, 2010.

12. Together, the foregoing patents are referred to herein as the "Patents-in-Suit." Parity Networks is the assignee of the Patents-in-Suit and has all rights to sue for infringement and collect past and future damages for the infringement thereof.

DEFENDANT'S ACTS

13. Aviat is a global provider of data networking products and solutions and provides hardware and software directed to switching and routing network data to its customers in the United States, including in this District.

14. Specifically, Aviat provides hardware, software, and services directed to detection, analysis, and monitoring of data flow in a data network environment, including Aviat Networks-branded products.

15. Aviat's WTM 3200 is a packet radio that includes a Carrier Class Ethernet switch that "supports advanced traffic management, security and control features. Aviat WTM 3200 Datasheet, page 2, available at:

https://aviatnetworks.com/media/files/WTM3200_Data_Sheet.pdf. Aviat's microwave routers similarly include network traffic monitoring and management features. Aviat describes the WTM 4000 microwave radio and router platform as offering "advanced networking options and flexibility to address evolving backhaul and enterprise service needs, by combining the very latest in Carrier Ethernet switching, Ethernet OAM and packet-based synchronization, to deliver a single versatile platform for multiple application." Aviat WTM 4000 Next Generation Microwave Radio Datasheet, page 1, available at: https://tws-technologies.de/wp-content/uploads/Datenblatt_Aviat_WTM4000.pdf. Similarly, the CTR 8611 microwave router that "offers a versatile and scalable solution for mission critical networks with a high availability design, fully redundant switching and control, advanced Quality of Service (QoS) capabilities, and extensive security." https://aviatnetworks.com/products/microwave-routers/ctr-8611-integrated-microwave-router/. Likewise, the CTR 8740 is another model of microwave router that features "Advanced Traffic Management: L2/ L3 QoS, Ingress Policing, Shaping, Buffering, Multiple Class scheduling, [and] H-QoS." https://aviatnetworks.com/products/microwave-routers/ctr8740-transport-router/.

16. Certain of Aviat's products, including WTM 3200, WTM 4000, CTR 8611 and CTR 8740, provide quality of service ("QoS") features that are designed to minimize or avoid congestion in a switch, router, or other network node. Specifically, the aforementioned products support random early detection ("RED") and weighted random early detection ("WRED") as part of their QoS features. RED and WRED are queuing disciplines that are designed to avoid congestion and prevent a packet queue from filling up by dropping incoming packets based on how full the queue is and based on specified minimum and maximum threshold values for queue

length. Aviat provides an overview of QoS and the role of RED and WRED algorithms in reducing network traffic congestion:

QoS Concepts

QoS, or more specifically the prioritization of traffic on a network is an essential mechanism to ensure high priority traffic is delivered ahead of low priority traffic when a network becomes congested.

As traffic loads increase port buffers begin to fill, which adds to delay. If the buffers overflow packets are dropped.

Prioritization assists by forwarding high-priority and delay-sensitive traffic before other traffic. It requires that traffic is tagged with a priority marker so that it can be identified and moved into queues with the appropriate service level for onward transmission.

- The queuing process determines how tagged traffic is stacked (classified) in an egress queue ready for forwarding.
- On L2 switches a mapping process maps higher-level tags into the eight classes typically supported at L2.
- This provides eight queues per port, ranging from 0 (lowest priority) to 7 (highest priority).
- The size of the queues is determined by the port buffer size.
  - The buffer is a physical amount of memory. It temporarily holds packets when a switch receives more packets than it can process at the time.
  - A queue is a collection of packets in a buffer waiting on service.
  - Scheduling (forwarding) algorithms determine how queues are serviced.
  - The bigger the buffer, the more packets held during congested operation before topping-out and the dropping of new incoming packets (tail drop).
  - But the bigger the buffer the greater the delay for packets held towards the back of the queue.

Scheduling is the process by which packets are forwarded from queues - it determines the order and method by which queues are serviced.

- The scheduler is responsible for selecting traffic queues for forwarding.
- Operation applies on ports that have multiple traffic classes enqueued for transmission.
- Scheduling options are applied per queue (traffic class), meaning the same or different scheduler actions can be applied per queue class (up to eight), per L2 switch port.
- These typically include strict and weighted options. Strict acts on all high priority packets before servicing lower priority packets. Weighted options ensure even lower priority packets get some bandwidth.
- A typical configuration may have highest priority traffic e.g. packets in Q7 and Q6, scheduled for strict, and those of lower priority for weighted action.

QoS for ACM, Aviat Networks, page 3, April 11, 2013, available at: https://aviatnetworks.com/media/files/Aviat_Networks_QoS_for_ACM.pdf.

> Policing can be considered an extended QoS function. Its primary purpose is to meter a traffic flow at ingress based on a user-configured traffic profile, and to act on frames that are out-of-profile. It is typically used to support enforcement of a Service Level Agreement (SLA).
>
> - Policer action can be applied per port, or per VLAN.
> - Enforcement options can include the dropping of frames, the remarking (reprioritizing) of frames using QoS 802.1p tagging, or no-change (forward unmodified).
> - Remarking options support local or preserved. Local applies only within the switch; preserved retains the 802.1p remarking beyond the switch.

Id. at 4.

> **Counteracting the Problem**
>
> In order to counteract this problem different queuing control mechanisms have been devised. A common one is Random Early Discard or Radom Early Detection (RED). In RED, when the queue exceeds a certain size the network component marks each arriving packet with a probability that depends on the queue size. When the buffer is full, the probability reaches 1 and all incoming packets are dropped. The chance that the network component notifies a particular sender to reduce its data transmission rate is proportional to the sender's share of the bandwidth of the link—an improvement over tail dropping.
>
> An issue that was realized early on about the RED algorithm is that it cannot differentiate between traffic types. A variation of the RED algorithm that addresses this problem is called Weighted Random Early Detection (WRED). In WRED, the probability of dropping packets is based on the size of the queue and the traffic flow type (IP precedence).

https://aviatnetworks.com/tag/wred/.

17. Aviat instructs its customers regarding the implementation and operation of the accused instrumentalities, including at https://aviatcloud.com/cloudcss/splash/index.aspx and https://aviatnetworks.com/about-us/wireless-technology/.

18. On information of belief, Defendant Aviat also implements contractual protections in the form of license and use restrictions with its customers to preclude the unauthorized reproduction, distribution and modification of its software.

19. Moreover, on information and belief, Defendant Aviat implements technical precautions to attempt to thwart customers who would circumvent the intended operation of Aviat's products.

PRIOR KNOWLEDGE OF THE PATENTS-IN-SUIT

20. By letters dated October 5, 2016 and November 28, 2016, Aviat was provided and actually received notice of the Patents-in-Suit, and consequently has actual and/or constructive knowledge of each of them. True and correct copies of these letters are attached as **Exhibit 3** and **Exhibit 4**.

V. COUNTS OF PATENT INFRINGEMENT

COUNT ONE
INFRINGEMENT OF U.S. PATENT NO. 6,252,848

21. Parity Networks incorporates by reference its allegations in Paragraphs 1-20 as if fully restated in this paragraph.

22. Parity Networks is the assignee and owner of all right, title and interest to the '848 Patent. Parity Networks has the legal right to enforce the patent, sue for infringement, and seek equitable relief and damages.

23. On information and belief, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently directly infringing at least claim 1 of the '848 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through making, using (including for testing purposes), selling and offering for sale methods and articles infringing one or more claims of the '848 Patent. Defendant Aviat is thus liable for direct infringement of the '848 Patent pursuant to 35 U.S.C. § 271(a).

24. Exemplary infringing products include Aviat's WTM 3200 Carrier Class Ethernet switch which includes multiple ingress ports with output queues and wherein the ingress ports are

configured to receive packets from multiple ingress flows and monitor their characteristics. Each packet is marked with a marking based on criteria including the ingress flow rate and the flow profile.

25. On information and belief, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '848 Patent, including actively inducing infringement of the '848 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Aviat knows or should know infringe one or more claims of the '848 Patent. Aviat instructs its customers to make and use the patented inventions of the '848 Patent by operating Aviat's products in accordance with Aviat's specifications. Aviat specifically intends its customers to infringe by implementing software on its switches and routers to configure class-of-service (CoS) and QoS components to classify, police, shape, and mark traffic in an infringing manner.

26. On information and belief, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '848 Patent, including contributory infringement of the '848 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the infringing products. Aviat knows that the infringing products (i) constitute a material part of the inventions claimed in the '848 Patent; (ii) are especially made or adapted to infringe the '848 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in operating systems used to implement class-of-service (CoS) and QoS components to classify, police, shape, and mark traffic in an infringing manner.

27. As a result of Aviat's infringement of the '848 Patent, Parity Networks has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

COUNT TWO
INFRINGEMENT OF U.S. PATENT NO. 7,719,963

28. Parity Networks incorporates by reference its allegations in Paragraphs 1-27 as if fully restated in this paragraph.

29. Parity Networks is the assignee and owner of all right, title and interest to the '963 Patent. Parity Networks has the legal right to enforce the patent, sue for infringement, and seek equitable relief and damages.

30. On information and belief, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently directly infringing at least claim 1 of the '963 Patent, as infringement is defined by 35 U.S.C. § 271(a), including through making, using (including for testing purposes), selling and offering for sale methods and articles infringing one or more claims of the '963 Patent. Defendant Aviat is thus liable for direct infringement of the '963 Patent pursuant to 35 U.S.C. § 271(a).

31. Exemplary infringing products include Aviat's WTM 3200 Carrier Class Ethernet switch, CTR 8611 Microwave Router, CTR 8740 Transport Router, and WTM 4000 Microwave Router, which support using a WRED algorithm on packet queues to drop packets as a function of queue size (or buffer) in order to manage congestion in the router or switch.

32. On information and belief, at least since the filing of the Original Complaint, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '963 Patent, including actively inducing infringement of the '963 Patent under 35 U.S.C. § 271(b). Such inducements include without limitation, with

specific intent to encourage the infringement, knowingly inducing consumers to use infringing articles and methods that Aviat knows or should know infringe one or more claims of the '963 Patent. Aviat instructs its customers to make and use the patented inventions of the '963 patent by operating Aviat's products in accordance with Aviat's specifications. Aviat specifically intends its customers to infringe by, among others, designing and fabricating its switches and routers to use a WRED algorithm on packet queues to drop packets as a function of queue size (or buffer) in order to manage congestion in the switch.

33. On information and belief, Defendant Aviat, without authorization or license from Parity Networks, has been and is presently indirectly infringing at least claim 1 of the '963 Patent, including contributory infringement of the '963 Patent under 35 U.S.C. § 271(c) and/or § 271(f), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the infringing products. Aviat knows that the infringing products (i) constitute a material part of the inventions claimed in the '963 Patent; (ii) are especially made or adapted to infringe the '963 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in switches and routers to implement a WRED algorithm on packet queues to drop packets as a function of queue size (or buffer) in order to manage congestion in the switch.

34. As a result of Aviat's infringement of the '963 Patent, Parity Networks has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement under 35 U.S.C. § 284, but in no event, less than a reasonable royalty.

VI. WILLFUL INFRINGEMENT

35. As set forth above and in the exhibits hereto Aviat has received actual notice of infringement of the Patents-in-Suit by direct communications from Plaintiff's representatives on at least two occasions.

36. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed one or more of the foregoing Patents-in-Suit. Defendant has thus had actual notice of infringement of one or more of the Patents-in-Suit, has continued to infringe and engaged in egregious conduct, including through failing to substantively respond to Plaintiff's repeated efforts to discuss a license outside the context of litigation. Aviat has taken the foregoing actions despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights.

37. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. § 284.

VII. JURY DEMAND

38. Plaintiff Parity Networks demands a trial by jury of all matters to which it is entitled to trial by jury, pursuant to FED. R. CIV. P. 38.

VIII. PRAYER FOR RELIEF

WHEREFORE, Parity Networks prays for judgment and seeks relief against Defendant as follows:

A. That the Court determine that one or more claims of the Patents-in-Suit is infringed by Defendant Aviat, either literally or under the doctrine of equivalents;

B. That the Court award damages adequate to compensate Parity Networks for the patent infringement that has occurred, together with prejudgment and post-judgment interest and costs, and an ongoing royalty for continued infringement;

C. That the Court award enhanced damages pursuant to 35 U.S.C. §284; and

D. That the Court award such other relief to Parity Networks as the Court deems just and proper.

DATED: January 24, 2020

Respectfully submitted,

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